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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,395	05/03/2001	Marc M. Rehfeld	206748US3	6479

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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT PAPER NUMBER

1774

DATE MAILED: 05/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,395

Applicant(s)

REHFELD ET AL.

Examiner

Lawrence D Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment mailed February 14, 2003. Claim 9 was canceled and claims 1 and 7 were amended rendering claims 1-8 pending.

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marc Rehfeld (U.S. 5,773,102) in view of Marc Rehfeld et al. (U.S. 5,478,615).

4. Rehfeld discloses a laminated glass pane with good acoustic properties and correct mechanical strength (column 2, lines 32-34) with a 2mm intermediate acoustic film having a bar 9 cm in length and 3 cm in width made with two glass plates of 4 mm thickness having a critical frequency which differs at most by 35% from that of a bar made of the same length (column 2, lines 40-52). Rehfeld discloses the film made of acoustic resin and PVB (column 3, lines 23-25) with the intermediate layer having a thickness (column 5, lines 60-67). Rehfeld discloses critical values corresponding to PVB at a temperature of 20 degrees Celsius (column 5, lines 25-37). Rehfeld does not

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explicitly disclose the intermediate thickness is equal to $d_{ref} J_{ref}/J_c$. The thickness of the intermediate layer is optimizable and directly affects the damping property of the laminated glass pane. It would have been obvious to one of ordinary skill in the art to optimize the intermediate layer because discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215. Rehfeld does not disclose the intermediate layer abutting the two glass sheets.

Rehfeld '615 teaches a laminated glazing with a plastic interlayer having properties of acoustic insulation (column 7, lines 28-35) where the glazing has two glass sheets have an interlayer (column 7, lines 34-35). Rehfeld '102 and Rehfeld '615 are analogous art because they are from the same field of laminated glazings. It would have been obvious to one of ordinary skill in the art to include a laminated glazing having one interlayer in laminated glazing of Rehfeld '102 because Rehfeld '615 teaches modifying laminated glazings to improve acoustical insulation (column 7, lines 28-40).

Claim Rejections – 35 USC § 103(a)

5. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marc Rehfeld (U.S. 5,773,102) in view of Garnier et al. (U.S. 6,074,732).

6. Rehfeld discloses a laminated glass pane with good acoustic properties and correct mechanical strength (column 2, lines 32-34) with a 2mm intermediate acoustic film having a bar 9 cm in length and 3 cm in width made with two glass plates of 4 mm thickness having a critical frequency which differs at most by 35% from that of a bar

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made of the same length (column 2, lines 40-52). Rehfeld discloses the film made of acoustic resin and PVB (column 3, lines 23-25) with the intermediate layer having a thickness (column 5, lines 60-67). Rehfeld discloses critical values corresponding to PVB at a temperature of 20 degrees Celsius (column 5, lines 25-37). Rehfeld does not explicitly disclose the intermediate thickness is equal to $d_{ref} J_{ref}/J_c$. The thickness of the intermediate layer is optimizable and directly affects the damping property of the laminated glass pane. It would have been obvious to one of ordinary skill in the art to optimize the intermediate layer because discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215. Rehfeld does not disclose the intermediate layer abutting the two glass sheets, loss factor or shear modulus.

Garnier teaches a laminated window comprising at least one glass sheet and on intermediate film having a loss factor greater than 0.6 and a shear modulus smaller than 2×10^7 N/m² in a temperature range of between 10 and 60 and in a frequency range of between 50 and 10,000 Hz (column 4, lines 16-24). Rehfeld and Garnier are analogous art because they are both from the field of laminated glass. It would have been obvious to one of ordinary skill in the art to include a laminated glazing having one interlayer in laminated glazing of Rehfeld '102 because Garnier teaches only one intermediate layer is necessary for soundproofing against noises of structure-borne origin (column 4, lines 18-20). Additionally, it would have been obvious to one of ordinary skill in the art to include the loss factor and shear modulus in the laminated glazing of Rehfeld because

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Garnier teaches the cited loss factor and shear modulus held ensure particular soundproofing against noises of a laminated glass window (column 4, lines 17-23).

Claim Rejections – 35 USC § 103(a)

7. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marc Rehfeld (U.S. 5,773,102) in view of Marc Rehfeld et al. (U.S. 5,478,615) further in view of Friedman et al (U.S. 5,908,704).

8. Rehfeld '102 in view of Rehfeld '615 are relied upon for claims 1-3 and 5-7. Rehfeld '102 does not disclose reinforcing fibers in the intermediate layer. Friedman teaches two protective glazing layers with at least one interlayer having at least one reinforcement layer embedded in the polymer interlayer (column 14, lines 11-16) where the interlayer is fiber (column 14, lines 27-29). All the references are analogous because they are from the field of laminated glazings. It would have been obvious to one of ordinary skill in the art to include reinforcing fibers in the interlayer of Rehfeld '102 because Friedman teaches the reinforcing fiber adds structural support (column 4, lines 63-65).

Response to Arguments

9. Applicant's arguments of rejection under 35 USC 102(b) as anticipated by Marc Rehfeld (U.S. 5,773,102) have been considered and the rejection has been withdrawn

rendering the arguments moot. Marc Rehfeld (U.S. 5,773,102) has been cited in the presented rejection under USC 103(a) practice with additional secondary references incorporated therein.

Applicant's arguments of rejection under 35 U.S.C. 102(b) as being anticipated by Marc Rehfeld (U.S. 5,368,917) have been considered and the rejection has been withdrawn rendering the arguments moot.

Applicant's arguments of rejection under 35 U.S.C. 102(b) as being anticipated by Marc Rehfeld (U.S. 5,478,615) have been considered and the rejection has been withdrawn rendering the arguments moot.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

